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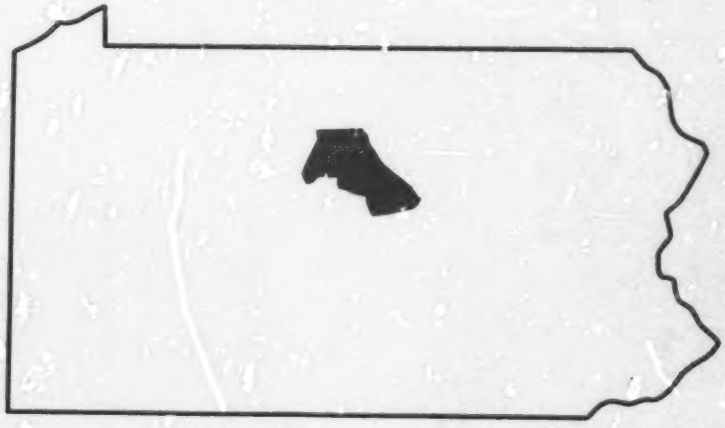
FLOOD INSURANCE STUDY

TOWNSHIP OF PORTER, PENNSYLVANIA
CLINTON COUNTY



JULY 15, 1988

COMPLETED

Federal Emergency Management Agency

COMMUNITY NUMBER - 420333

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program (NFIP) have established repositories of flood hazard data for floodplain management and flood insurance study purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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FLOOD INSURANCE STUDY
TOWNSHIP OF PORTER, CLINTON COUNTY, PENNSYLVANIA

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Township of Porter, Clinton County, Pennsylvania, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program (NFIP) are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were prepared by the U. S. Geological Survey (USGS) for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-84-E-1548. This work was completed in September 1986.

1.3 Coordination

On March 5, 1984, an initial Consultation and Coordination Officer's (CCO) meeting was held with representatives from FEMA, the township, and the USGS (the study contractor) to determine the results of the study.

On September 2, 1987, a final CCO meeting was held with representatives from FEMA, the township, and the study contractor to review the results of the study.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the incorporated area of the Township of Porter, Clinton County, Pennsylvania. The area of study is shown on the Vicinity Map (Figure 1).

The following streams were studied by detailed methods: Fishing Creek, from the downstream corporate limits to the LR 18006 bridge over Fishing Creek; Fishing Creek Diversion Channel, for its entire length within the community; and Little Fishing Creek, for its entire length within the community. A shallow flooding area from the most upstream crossing of LR 18041 rejoining Fishing Creek to just downstream of the community of Lamar was also studied by detailed methods. The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development and proposed construction through September 1991.

The following streams were studied by approximate methods: Cherry Run, Spring Run, Cedar Run, Cedar Spring, and the remaining portions of Fishing Creek. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and the Township of Porter.

2.2 Community Description

The Township of Porter is located in southern Clinton County in central Pennsylvania, approximately 7 miles south of the Borough of Mill Hall, and approximately 4 miles east of Mackeyville. The township is bordered by the Townships of Walker, Marion, and Liberty to the west; the Township of Beach Creek to the north; the Township of Lamar to the east; the Township of Bald Eagle to the northeast; and the Township of Logan to the south.

The Township of Porter is slowly being developed. Most development is occurring along LR 18007, which parallels Fishing Creek from the downstream corporate limits to the community of Lamar, and along LR 18043 and LR 18006 to the south of the community of Lamar.

Fishing Creek is the principal waterway within the township. Fishing Creek flows northward through the western portion of the township and then northeast across the center of the township. Little Fishing Creek flows in a northeastern direction to its confluence with Fishing Creek. Several tributaries to Fishing Creek, mostly unnamed, drain the northern and southern halves of the township.

Fishing Creek meanders west and north for approximately 25 miles from the Borough of Loganton in the southeastern corner of Clinton

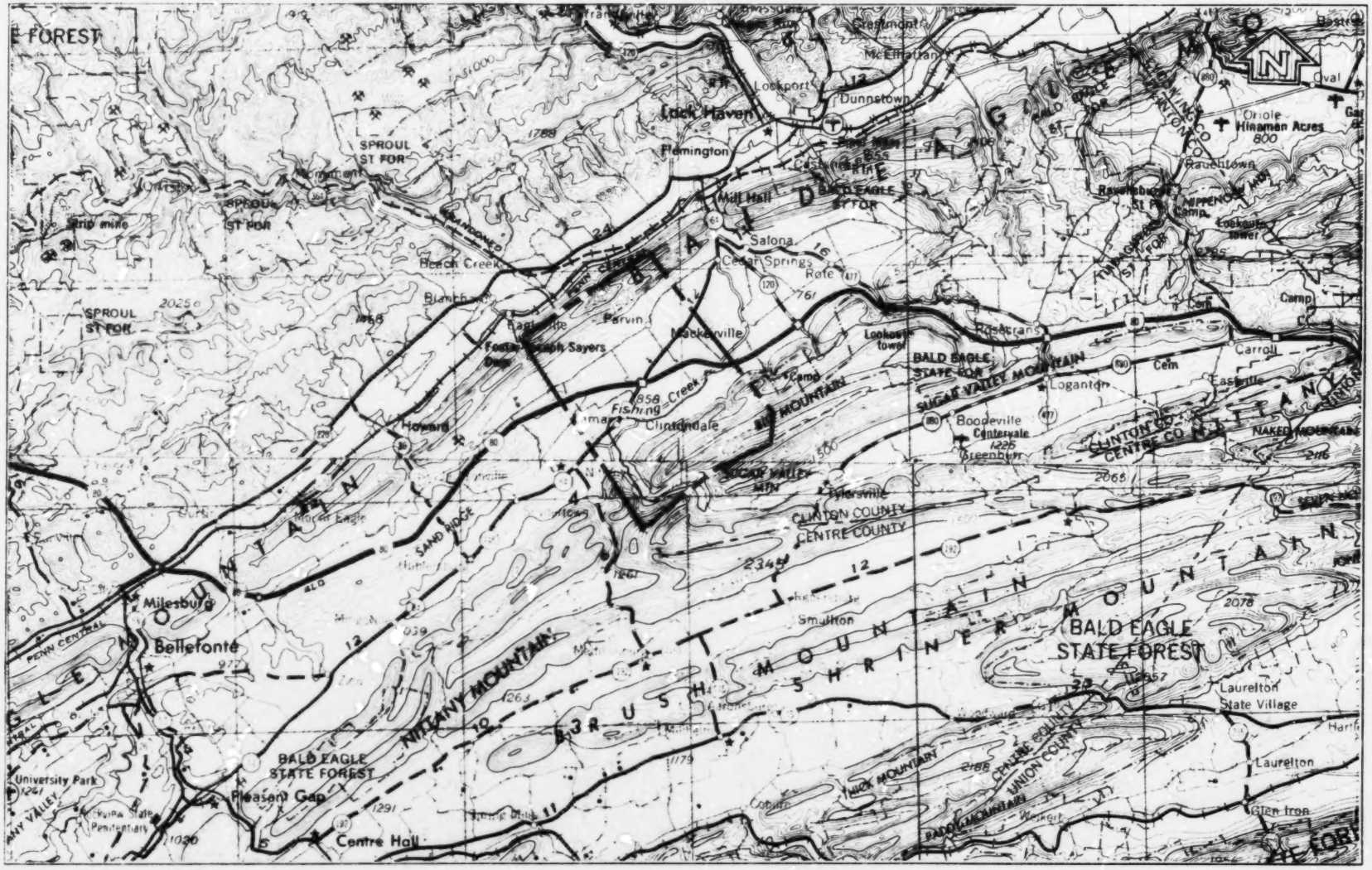


FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA

CLINTON COUNTY

APPROXIMATE SCALE

4 0 4 8 12 MILES

VICINITY MAP

County and drains most of southern Clinton County, including the valleys of Big and Sugar Valley Mountains. Its valley averages approximately 5 miles in width.

Land use in the Fishing Creek basin is mostly agricultural and forest. Crops include corn, wheat, hay, and pasture. Communities located in the basin are mostly small villages.

The climate of the region is continental. The humidity is relatively high. The average annual precipitation for the region is approximately 40 inches, and the average annual temperature is 51 degrees Fahrenheit (^{o}F) (Reference 1).

Soils in Porter consist mainly of two predominant associations. The Dekalb-Laidig-Buchannan association dominates along the northern and southern boundaries of the township and consists mainly of stony soils weathered from noncarbonate sedimentary rocks. The Hagerstown-Edom soil association dominates in the center of the township and contains mainly soils weathered from carbonate sedimentary rocks.

The topography of Porter is characterized by both mountain and valley areas. Bald Eagle Mountain runs northeast to southwest across the northern edge of the township; the boundary between Porter and the Township of Beach Creek lies along the ridge. Big Mountain runs northeast to southwest across the southern edge of the township. Altitudes range from approximately 700 feet on the banks of Fishing Creek to more than 2,300 feet on the top of Big Mountain. Most land in the township is forested; however, land use on the floodplains consists of agricultural and development. Farms and other cleared land comprise approximately 40 percent of the township. Prime agricultural land is located in the fertile valleys, which are gradually being urbanized. Only approximately 4 percent of the total area is urban.

2.3 Principal Flood Problems

Low-lying areas are subject to periodic flooding caused by overflow of Fishing Creek, Little Fishing Creek, and many small tributaries within the township. There are no stream gages on Fishing Creek or Little Fishing Creek.

2.4 Flood Protection Measures

There are no existing or proposed local flood protection measures or structures to reduce flood hazards within the Township of Porter.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood

hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied in detail affecting the community.

Flood-frequency data for the streams and the shallow flooding area studied by detailed methods were developed using the USGS Water Resources Investigations 82-21 (Reference 2). This method uses regression equations that were developed by the USGS to determine 50- and 100-year flood magnitudes for ungaged sites in Pennsylvania. The flood-frequency values for the 10- and 500-year floods were determined by logarithmic extension of the frequency curves on the basis of a wider range of frequency relationships given in USGS Bulletin No. 13 (Reference 3). The PSU IV method, developed by the Pennsylvania State University, verified the values calculated by the USGS in Bulletin No. 13 (Reference 4). There are no stream gages on Fishing or Little Fishing Creeks.

A summary of the drainage area-peak discharge relationships for the streams studied by detailed methods is shown in Table 1, "Summary of Discharges."

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
FISHING CREEK					
At Lamar-Porter corporate limits	129	6,840	10,600	12,840	20,070

TABLE 1 - SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
FISHING CREEK (continued)					
At LR 18008, approximately 2,900 feet upstream of Interstate Route 80 bridge	123	6,650	10,230	12,400	19,400
Approximately 500 feet upstream of LR 18008 bridge at Clintondale	120	6,460	10,050	12,180	19,050
Approximately 200 feet downstream of State Route 64 bridge below Lamar	120	6,230	9,050	10,780	16,050
Approximately 200 feet downstream of LR 18041 of most upstream crossing	75[1]	2,180	2,500	2,650	3,000
Approximately 50 feet downstream of LR 18006	74	4,470	7,080	8,650	13,550
SHALLOW FLOODING AREA					
Area between LR 18041 to just downstream of the community of Lamar	75[1]	230	1,000	1,400	3,000
FISHING CREEK DIVERSION CHANNEL					
On Fishing Creek	75[1]	2,100	3,650	4,690	7,670
LITTLE FISHING CREEK					
Approximately 1,500 feet above its confluence with Fishing Creek	41.8	2,810	4,580	5,630	8,840

[1]Combined drainage area for Fishing Creek, Fishing Creek Diversion Channel, and shallow flooding area.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

Cross-section data for the streams studied in detail were obtained using aerial photogrammetric techniques at a scale of 1:9,600, with the below-water sections being obtained by field measurement (Reference 5). All bridges and culverts were surveyed to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the Flood Insurance Rate Map (Exhibit 2). Along certain portions of Fishing Creek, a profile base line is shown on the maps to represent channel distances as indicated on the flood profiles and floodway data tables.

Water-surface elevations of floods of the selected recurrence intervals were computed using the USGS WSPRO step-backwater computer program (Reference 6). Flood profiles were drawn showing computed water-surface elevations for floods of the selected recurrence intervals. Starting water-surface elevations for Fishing Creek were taken from the Flood Insurance Study for the Township of Lamar (Reference 7). Starting water-surface elevations for Fishing Creek Diversion Channel were taken from the confluence with Fishing Creek. Starting water-surface elevations for Little Fishing Creek were computed using the slope/area method (Reference 6).

Roughness coefficients (Manning's "n") were estimated by a field inspection of the individual streams and supplemental aerial photography (Reference 5). The channel "n" values for Fishing Creek, Fishing Creek Diversion Channel, and Little Fishing Creek ranged from 0.038 to 0.048, and the overbank "n" values ranged from 0.045 to 0.150.

The shallow flooding area studied by detailed methods was determined using the slope/area method.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929 (NGVD). Elevation reference marks used in this study are shown on the maps; the descriptions of the marks are presented in Elevation Reference Marks (Exhibit 3).

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For the streams studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:4,800 with a contour interval of 4 feet (Reference 8).

For the streams studied by approximate methods, the 100-year flood boundaries were delineated using the Flood Hazard Boundary Map for the Township of Porter (Reference 9).

The 100- and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map (Exhibit 2). On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, and AO), and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

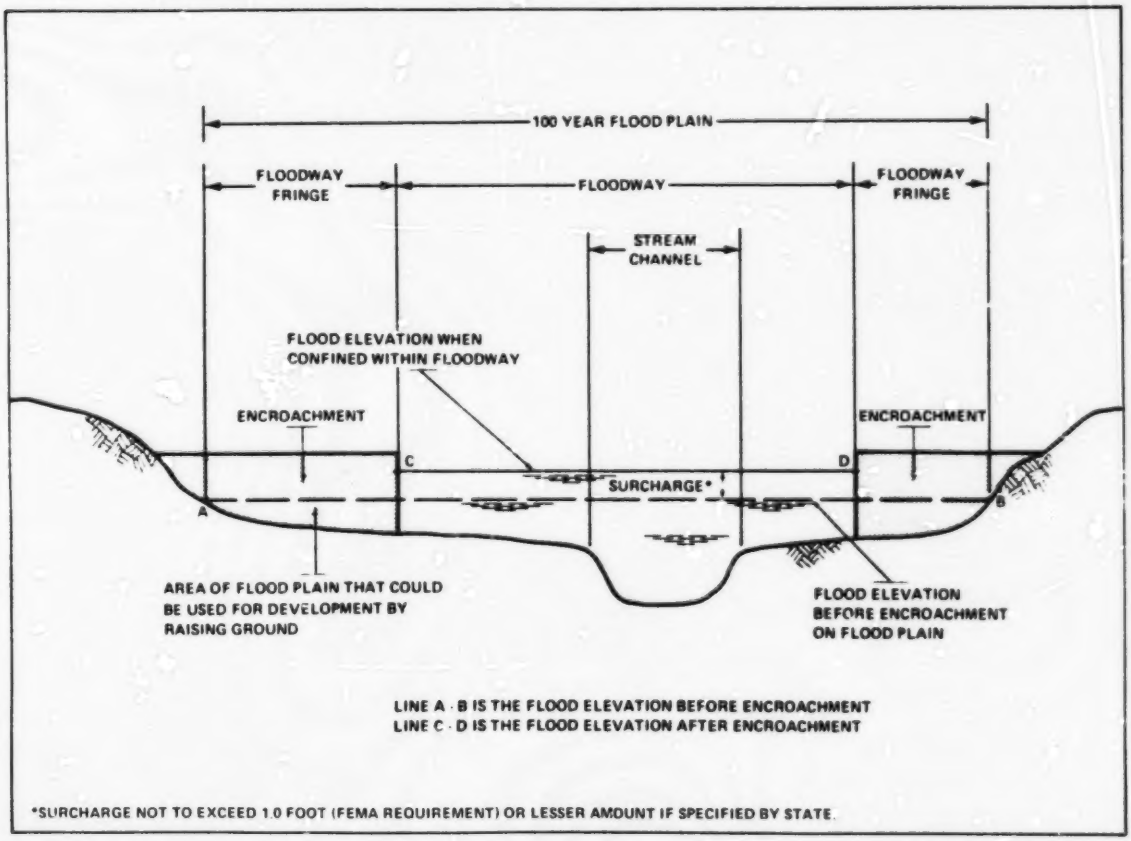
For the streams studied by approximate methods, only the 100-year floodplain boundary is shown on the Flood Insurance Rate Map (Exhibit 2).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as a minimum standard that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections (Table 2). The computed floodways are shown on the Flood Insurance Rate Map (Exhibit 2). In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

The area between the floodway and 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2 .


100 YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE A - B IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE C - D IS THE FLOOD ELEVATION AFTER ENCROACHMENT
*SURCHARGE NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FLOODWAY SCHEMATIC Figure 2

5.0 INSURANCE APPLICATIONS

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. The zones are as follows:

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Fishing Creek								
A	577	300	1,570	8.0	694.5	694.5	694.9	0.4
B	968	220	1,740	7.2	697.1	697.1	697.8	0.7
C	1,108	212	1,690	7.5	698.6	698.6	699.1	0.5
D	1,750	167	1,590	7.9	701.8	701.8	702.1	0.3
E	2,452	175	1,920	6.6	705.2	705.2	705.5	0.3
F	3,110	212	1,680	7.5	707.0	707.0	707.7	0.7
G	3,333	174	2,030	6.2	709.0	709.0	709.8	0.8
H	4,312	343	2,970	4.2	711.0	711.0	711.6	0.6
I	5,285	455	2,520	4.9	712.4	712.4	713.0	0.6
J	5,495	416	1,720	7.2	714.6	714.6	714.6	0.0
K	6,660	376	1,940	6.4	718.2	718.2	718.6	0.4
L	7,252	336	1,780	7.0	720.4	720.4	721.1	0.7
M	7,393	311	1,940	6.4	721.7	721.7	722.3	0.6
N	8,261	552	3,040	4.1	724.6	724.6	725.5	0.9
O	9,217	351	1,910	6.5	728.2	728.2	728.3	0.1
P	10,429	420	2,140	5.8	733.9	733.9	734.4	0.5
Q	11,361	441	2,540	4.9	737.4	737.4	738.4	1.0
R	12,303	250	1,530	8.1	741.1	741.1	741.6	0.5
S	13,415	136	1,150	10.8	746.3	746.3	747.3	1.0
T	14,644	400	2,430	5.1	754.2	754.2	754.8	0.6
U	15,221	280	1,810	6.8	756.7	756.7	756.9	0.2
V	16,183	178	1,410	8.8	761.4	761.4	761.9	0.5
W	16,843	329	2,000	6.2	764.9	764.9	765.5	0.6

[1]Feet above corporate limits

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA
(CLINTON CO.)

FLOODWAY DATA

FISHING CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Fishing Creek (continued)								
X	17,611	355	1,940	6.4	767.7	767.7	768.6	0.9
Y	18,312	310	1,760	7.0	771.4	771.4	771.8	0.4
Z	18,712	190	1,610	7.7	773.3	773.3	774.1	0.8
AA	18,911	166	1,330	9.3	774.6	774.6	775.6	1.0
AB	19,570	185	1,340	9.0	781.1	781.1	781.1	0.0
AC	20,853	335	2,170	5.6	786.8	786.8	787.6	0.8
AD	21,483	152	1,340	8.0	789.6	789.6	790.5	0.9
AE	21,793	179	1,480	7.3	792.2	792.2	792.6	0.4
AF	22,500	163	1,420	7.6	794.4	794.4	794.8	0.4
AG	23,704	240	1,530	7.0	799.8	799.8	800.4	0.6
AH	24,303	300	1,760	6.1	802.8	802.8	803.5	0.7
AI	24,924	132	925	9.1	807.4	807.4	808.0	0.6
AJ	25,157	194	690	3.8	810.9	810.9	811.8	0.9
AK	25,381	120	800	3.3	811.6	811.6	812.4	0.8
AL	25,892	90	370	7.1	814.9	814.9	815.1	0.2
AM	26,818	88	490	5.4	823.1	823.1	823.4	0.3
AN	27,166	161	1,270	6.9	824.4	824.4	825.2	0.8
AO	27,289	111	1,100	8.0	825.9	825.9	826.6	0.7
AP	27,711	137	1,120	7.8	828.4	828.4	829.2	0.8
AQ	28,957	160	1,250	7.0	837.9	837.9	838.6	0.7
AR	29,914	167	1,150	7.6	846.1	846.1	846.8	0.7
AS	30,821	140	910	9.6	854.4	854.4	854.9	0.5
AT	31,561	127	1,050	8.3	859.8	859.8	860.7	0.9

[1]Feet above corporate limits

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA
(CLINTON CO.)

FLOODWAY DATA

FISHING CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Fishing Creek Diversion Channel								
A	24,648[1]	126	670	7.0	805.5	805.5	805.9	0.4
B	24,891[1]	105	600	7.8	809.2	809.2	809.2	0.0
C	25,531[1]	150	800	5.8	814.5	814.5	814.8	0.3
D	26,433[1]	111	580	8.0	822.7	822.7	823.3	0.6
Little Fishing Creek								
A	1,043[2]	230	1,120	5.0	819.8	819.8	820.6	0.8
B	2,171[2]	230	1,290	4.4	831.5	831.5	832.5	1.0
C	2,858[2]	231	1,400	4.0	838.1	838.1	838.8	0.7

[1]Feet above corporate limits
[2]Feet above confluence with Fishing Creek

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA
(CLINTON CO.)

FLOODWAY DATA

FISHING CREEK DIVERSION CHANNEL– LITTLE FISHING CREEK

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. In most instances, whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH

Zone AH is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AO

Zone AO is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually sheet flow on sloping terrain) where average depths are between 1 and 3 feet. Average whole-depths derived from the detailed hydraulic analyses are shown within this zone.

Zone A99

Zone A99 is the flood insurance rate zone that corresponds to areas of the 100-year floodplain that will be protected by a Federal flood protection system where construction has reached specified statutory milestones. No base flood elevations or depths are shown within this zone.

Zone V

Zone V is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Because approximate hydraulic analyses are performed for such areas, no base flood elevations are shown within this zone.

Zone VE

Zone VE is the flood insurance rate zone that corresponds to the 100-year coastal floodplains that have additional hazards associated with storm waves. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain,and to areas of 100-year flooding where average depths are less than 1 foot, areas of 10-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

Zone D

Zone D is the flood insurance rate zone that corresponds to unstudied areas where flood hazards are undetermined, but possible.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 100- and 500-year floodplains. Floodways and the locations of selected cross sections used in the hydraulic analyses and floodway computations are shown where applicable.

7.0 OTHER STUDIES

A Flood Insurance Study for the Township of Lamar is currently being prepared (Reference 7). The results of that study will be in agreement with the results of this study.

Due to its more detailed nature, this study supersedes the Flood Hazard Boundary Map for the Township of Porter (Reference 9).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in preparation of this study can be obtained by contacting FEMA, the Natural and Technological Hazards Division, Liberty Square Building (Second Floor), 105 South Seventh Street, Philadelphia, Pennsylvania 19106.

9.0 BIBLIOGRAPHY AND REFERENCES

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7. Federal Emergency Management Agency, Flood Insurance Study, Township of Lamar, Clinton County, Pennsylvania (Unpublished).

8. Kucera and Associates, Inc., Topographic Maps compiled from aerial photographs, Scale 1:4,300, Contour Interval 4 Feet: Porter, Pennsylvania, 1985.

9. U. S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Township of Porter, Clinton County, Pennsylvania, June 25, 1976.

U. S. Department of Agriculture, General Soil Map, Pennsylvania, Washington, D. C., 1972.

U. S. Department of the Interior, Geological Survey, 7.5-Minute Series Topographic Maps, Scale 1:24,000, Contour Interval 10 Feet: Mill Hall, Pennsylvania, Photorevised 1973; Beech Creek, Pennsylvania, Photorevised 1973; Madisonburg, Pennsylvania, Photorevised 1973; Millheim, Pennsylvania, Photorevised 1973.

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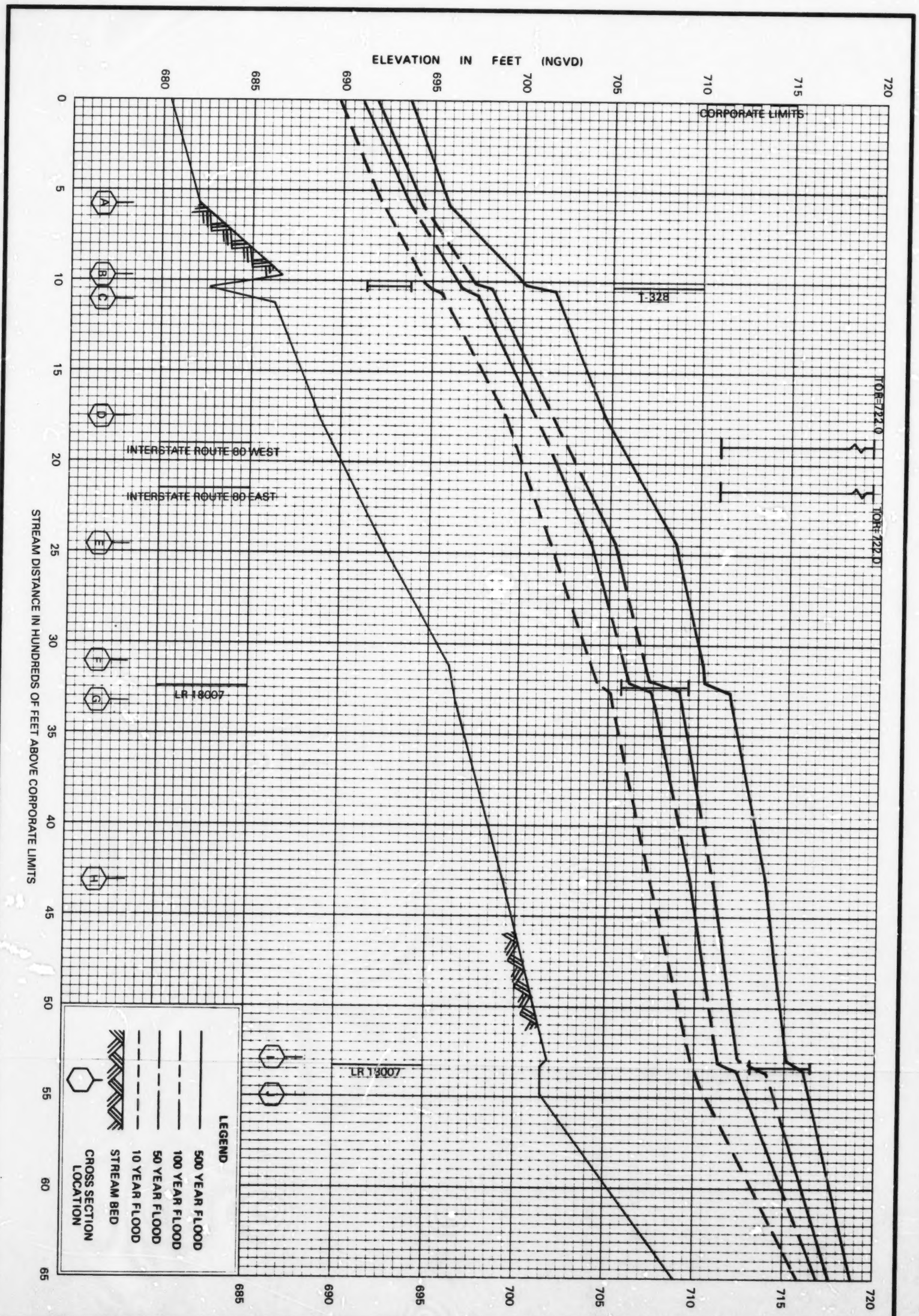
U. S. Department of the Interior, Geological Survey, Water Resources Data for Pennsylvania, Volume 2, Susquehanna and Potomac River Basins, Harrisburg, Pennsylvania, Published Annually, 1975-1984.

EXHIBIT 3 - ELEVATION REFERENCE MARKS

Reference Mark	FIRM Panel	Elevation (Feet NGVD)	Description of Location
RM 1	06	868.85	PDH disk set in southwest wing wall of LR 18006 bridge over Fishing Creek, approximately 1.3 miles south of community of Lamar.
RM 2	06	811.97	PDH disk set in south wing wall at west end of State Route 64 bridge over west side of island in Fishing Creek, approximately 900 feet east of intersection of LR 18043 and State Route 64.
RM 3	06	792.73	PDH disk set on top of southwest wing wall of State Route 64 bridge over Fishing Creek, approximately 0.3 mile northeast of community of Lamar.
RM 4	06	777.67	PDH disk set in southeast wing wall of LR 18007 bridge over Fishing Creek at Clintondale.
RM 5	07	742.47	Iron pin with aluminum cap set flush, approximately 4 feet northwest of edge of LR 18007 pavement, approximately 4 feet east of 40 miles per hour sign, approximately 17 feet southwest of centerline of long driveway, approximately 1.65 miles southwest of Interstate Route 80 overpass.
RM 6	07	716.20	PDH disk on top of southwest abutment of LR 18007 bridge over Fishing Creek, approximately 0.40 mile southwest of Interstate Route 80 bridge, and approximately 2.0 miles northeast of Clintondale.



FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA
(CLINTON CO.)

01P

FLOOD PROFILES

FISHING CREEK

18

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ELEVATION IN FEET (NGVD)

750
745
740
735
730
725
720
715
710
705

ACCESS ROAD

K L M N O P Q R

65 70 75 80 85 90 95 100 105 110 115 120 125 130

STREAM DISTANCE IN HUNDREDS OF FEET ABOVE CORPORATE LIMITS

LEGEND

- 500 YEAR FLOOD
- 100 YEAR FLOOD
- 50 YEAR FLOOD
- 10 YEAR FLOOD
- STREAM BED
- CROSS SECTION LOCATION

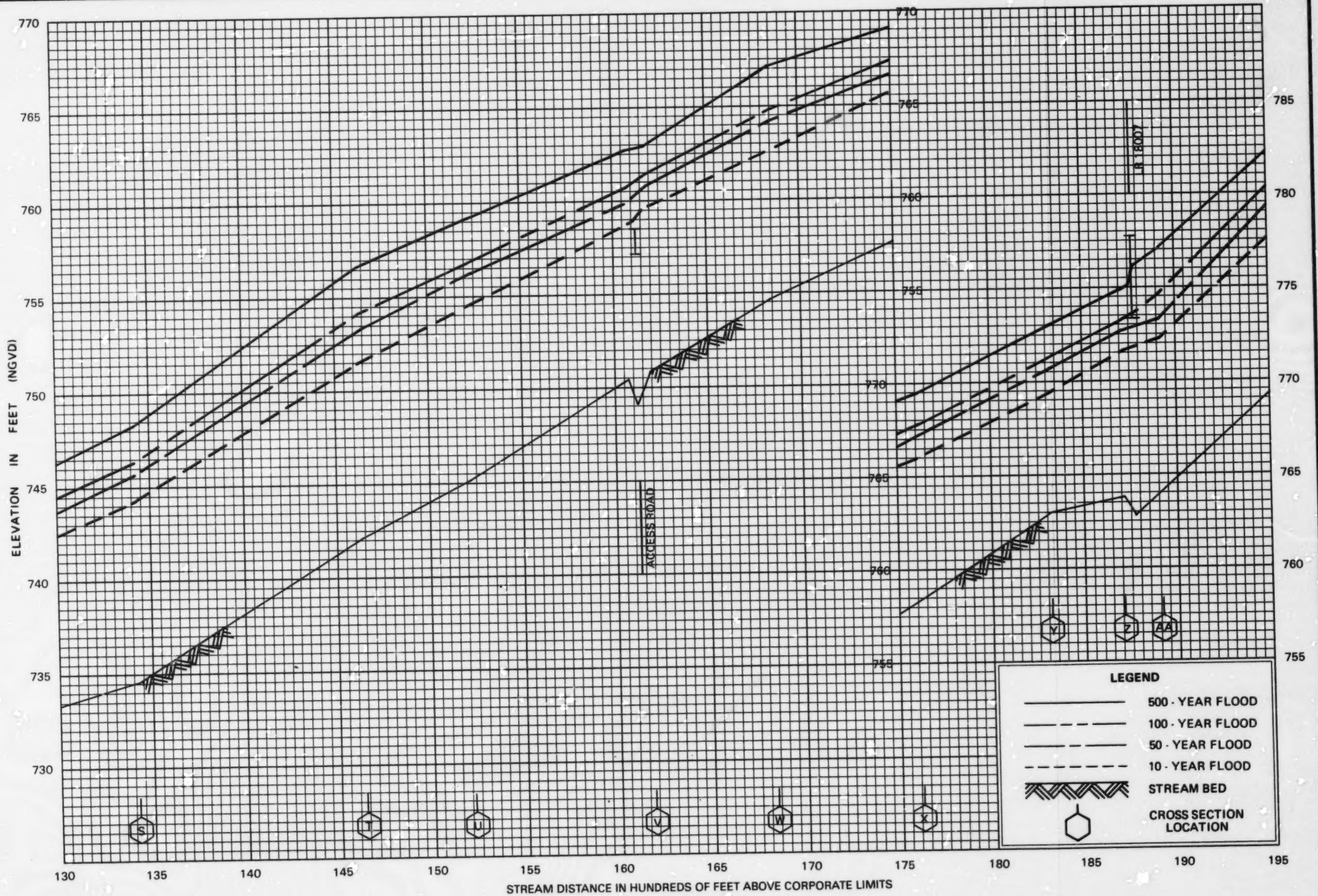
FLOOD PROFILES

FISHING CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA
(CLINTON CO.)

02P



FLOOD PROFILES

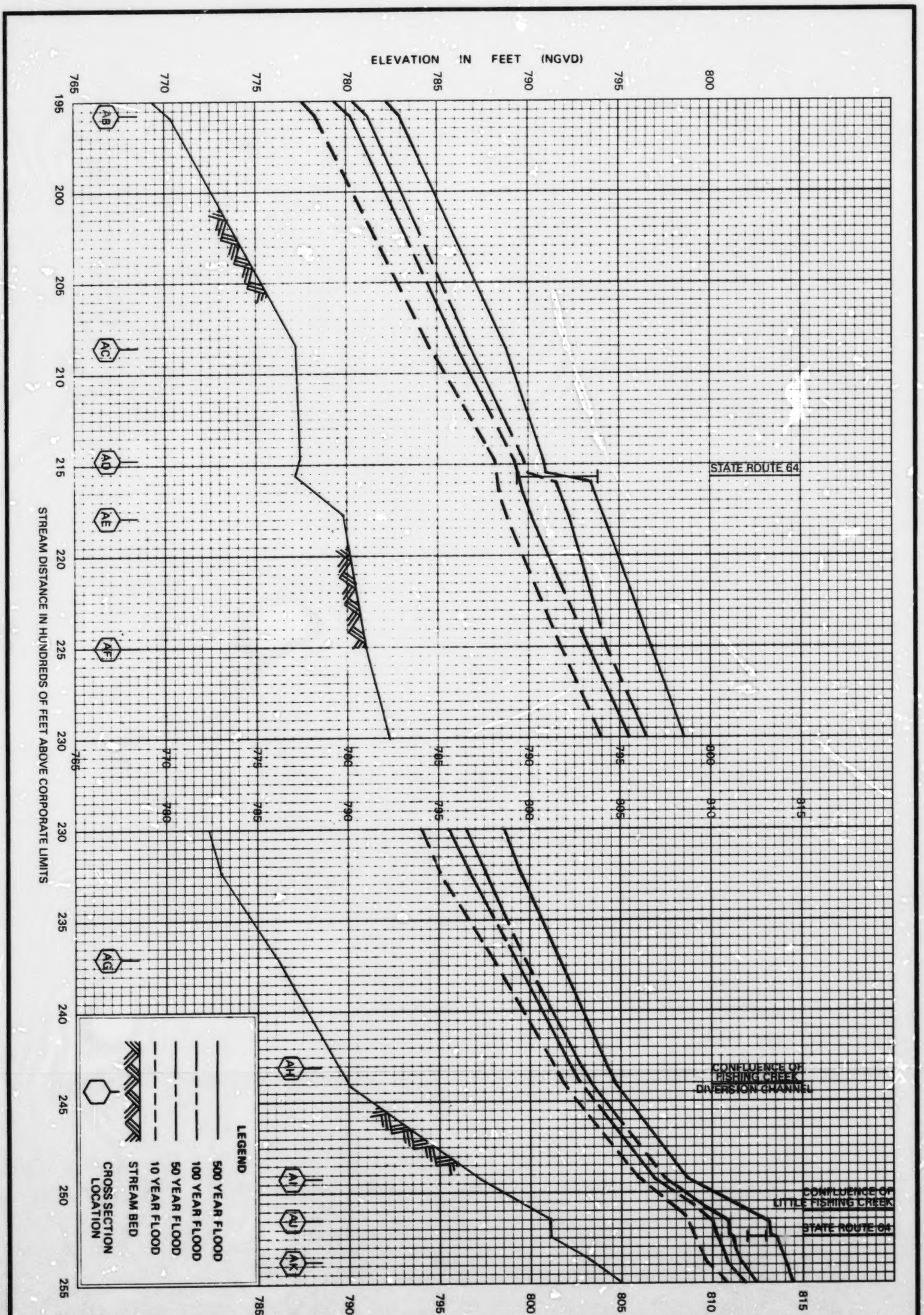
FISHING CREEK

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA

(CLINTON CO.)

03P



04P

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA

(CLINTON CO.)

FLOOD PROFILES

FISHING CREEK

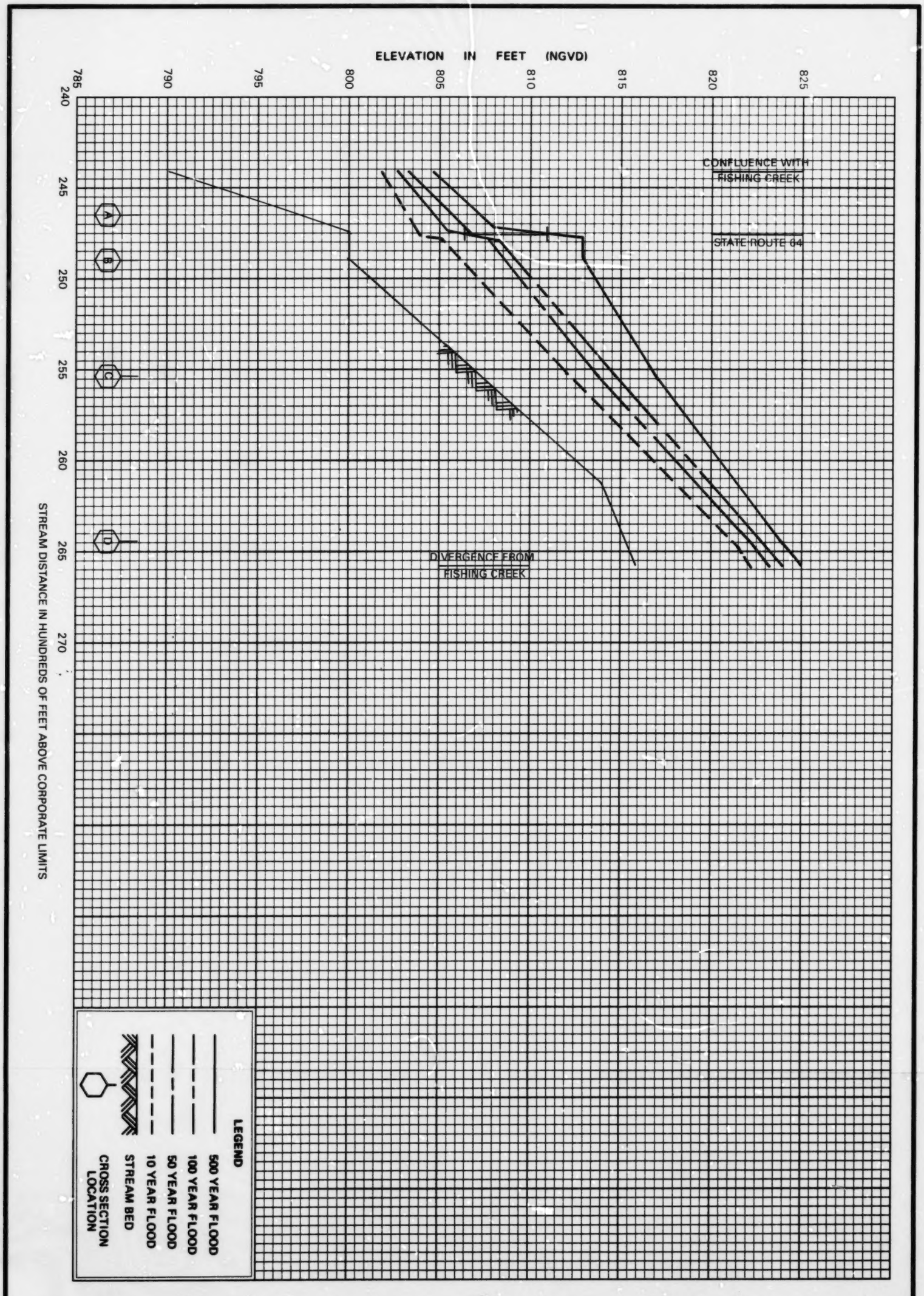
FLOOD PROFILES

FISHING CREEK

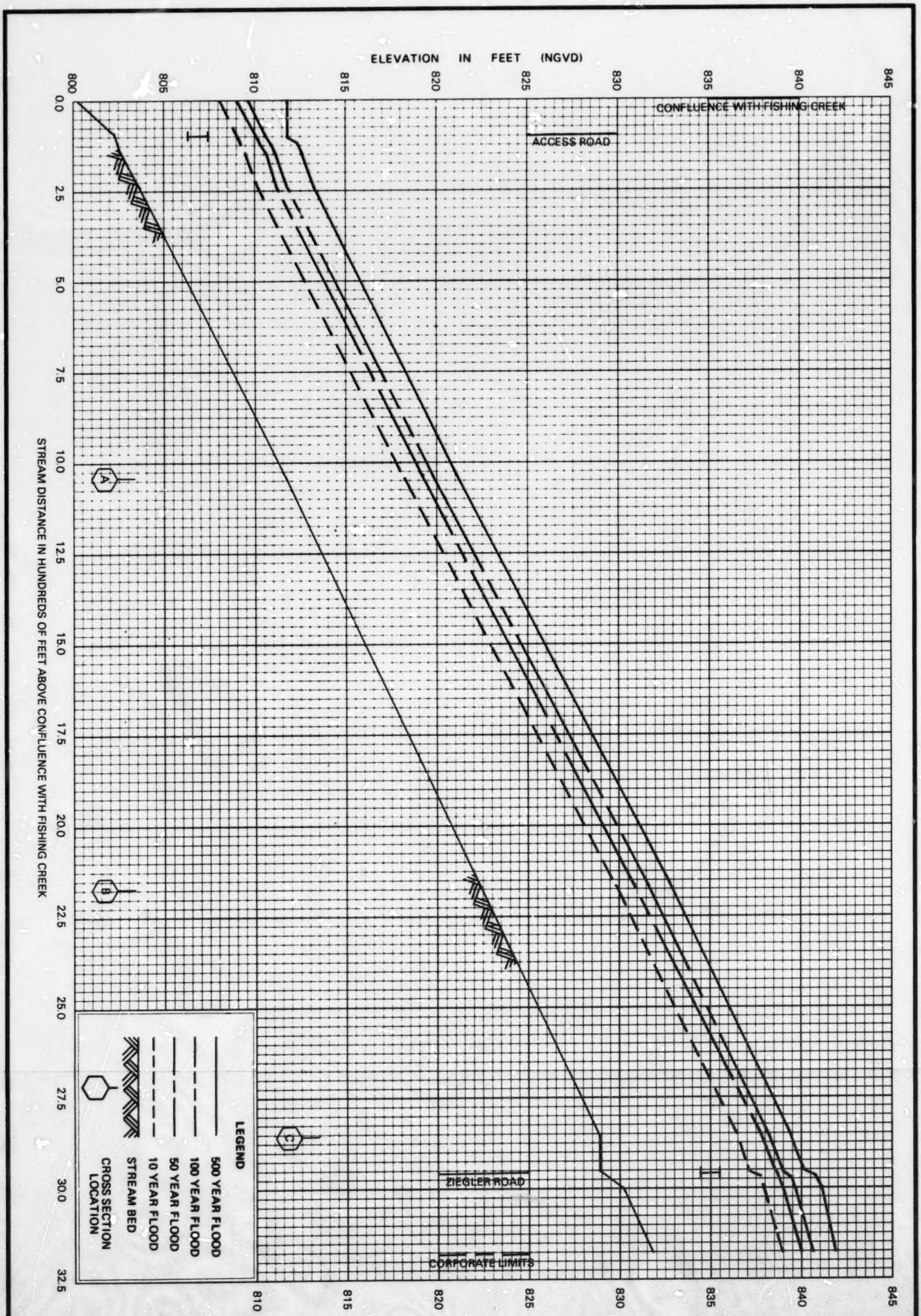
FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWNSHIP OF PORTER, PA
(CLINTON CO.)

05P



06P	FEDERAL EMERGENCY MANAGEMENT AGENCY TOWNSHIP OF PORTER, PA (CLINTON CO.)	FLOOD PROFILES FISHING CREEK DIVERSION CHANNEL



07P	FEDERAL EMERGENCY MANAGEMENT AGENCY TOWNSHIP OF PORTER, PA (CLINTON CO.)	FLOOD PROFILES LITTLE FISHING CREEK

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